

HAZELWOOD ELEMENTARY SCHOOL HVAC System Assessment



Completed for:



February 22, 2021

Site Visits, Analysis & Report by:
Metrix Engineers
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SCOPE

Metrix Engineers was hired to perform an assessment of the existing heating, ventilation and air conditioning systems at the Hazelwood Elementary School site in Auburn School District. The goal of the assessment was to provide an executive summary level of detail regarding the type and condition of the existing mechanical systems, determine if the systems are operating in compliance with their original design intent, and identify any areas of improvement based on site observations.

The existing facility is a single-story building of approximately 52,000 square feet and is laid out with a central administration and library that is flanked on each of the 4 sides with classroom wings. The facility was originally constructed in 1990 and had a small renovation project completed in 2011.

A site walk was conducted on February 17, 2021 to review the existing mechanical systems. This report summarizes Metrix observations based on that visit.

EXECUTIVE SUMMARY

The existing building appears to be operating per its original design intent. Generally speaking, no major operating points of concern were observed.

There were a couple spaces that have been modified from the original design that may have ventilation concern as noted in the Observations section below.

EXISTING SYSTEM OBSERVATIONS

HVAC:

The original central plant design consisted of two air to water heat pumps located outside on grade in an enclosure along the south wall of the gym. The chilled/heating water piping extends underground to the fire sprinkler riser room where three building circulation pumps are located. After the initial school build, a boiler was added to the fire sprinkler riser room in place of one of the four existing water heaters.

Heating, ventilation and air conditioning to classrooms spaces are provided by air handling units and individual zone variable air volume (VAV) units with reheat/cool coils. The air handling units and VAV's are located in a mezzanine that spans the entire building attic space along each of the four classroom wings. The gym and gym office are conditioned and ventilated by a dedicated air handling unit located in the mezzanine adjacent to the gym. The central library and surrounding corridor are conditioned and ventilated by a dedicated air handling unit located in the mezzanine adjacent to the library.

A spot check of the internals of various HVAC system components was completed during the site visit. Systems scheduled on at the time of the site visit were verified operational and all equipment appeared well maintained.

All classroom systems and spaces appeared to be meeting or exceeding designed outdoor airflow ventilation rates. There are a couple small storage spaces from the original design that appear to be converted to office spaces.



- Book Storage 130A presently has a desk and a computer in the room assuming office use. The existing HVAC design was confirmed to be sized appropriately for the book storage to have occupancy in the space.
- Testing 301A of the original design is now a special education office. The office does not presently have a supply diffuser for ventilation.

Note 1

Controls:

Building automation system controls are an original Alerton-Ibex. Existing Johnson branded actuators are replaced with Belimo actuators upon failure.

A review of the Building Automation System and outside air damper setpoints was conducted and all systems and spaces appear to be meeting or exceeding design outdoor airflow ventilation rates.

During control system review, no space temperature deficiencies were identified.





Hazelwood Elementary
HVAC System Assessment Notes

Note	Additional Notes		Estimated Completion Date	Final Completion Date
1		Verify outside air pathway.	3/5/21	3/5/21
	1.1	Provide recommendation to space occupant to open door to room 301 and limit space to single occupancy to improve air quality.	3/5/21 in person McQuiston and Colburn	3/5/21

Revision Date 3/5/21